6.14 Hazardous Materials

6.14.1 Introduction

Riverside Public Utilities (RPU) proposes to build and operate a nominal 96-megawatt (MW) simple-cycle power plant on a 12-acre fenced site within the City of Riverside, California. This proposed facility is referred to as the Riverside Energy Resource Center (RERC) Project (Project). RPU will develop, build, own and operate the facility. RERC will supply the internal needs of the City of Riverside during summer peak electrical demands and will serve the City's minimum emergency loads in the event RPU is islanded from the external transmission system. No power from RERC will be exported outside of the city.

This section describes the hazardous materials and waste generation management program that would be used during construction and operation of the project. The discussion includes information on the relevant laws, ordinances, regulations, and standards (LORS) that would be applicable given the nature of substances that will be used and wastes that may be generated at the proposed facility. A list of known chemicals used in the operation of either of the two zero liquid discharge (ZLD) generator options and of the wastes typically associated with these system options is provided, as well as a system for mitigating the risk associated with the use and handling of such materials. Finally, an analysis of potential environmental and health impacts associated with hazardous materials and wastes is provided.

6.14.1.1 Project Description

The proposed site is owned by the City of Riverside and is located adjacent to the City of Riverside's Wastewater Treatment Plant (WWTP) in a light industrial/manufacturing area. The RERC will consist of two aero-derivative combustion turbine generators with SCRs, an on-site substation, approximately 1.75 miles of 69kV transmission line, natural gas and water supply interconnection, and on-site administration building and warehouse. The power plant and associated administration building and warehouse will occupy approximately 8 of 12 acres with the additional 4 acres reserved for equipment storage and construction parking. The entire plant perimeter will be fenced with a combination of chain-link fencing and architectural block walls.

Sensitive land uses within 1 mile of the proposed RERC site include residential areas, an elementary school, the Riverside Municipal Airport, the Martha McLean Anza Narrows Park, and the Van Buren Golf Center. A complete description of area land uses is provided in Section 6.2.

6.14.2 Setting

6.14.2.1 Laws, Ordinances, Regulations and Standards

The use and storage of hazardous materials and the generation of hazardous wastes are regulated by federal, state, and local laws, ordinances, regulations and standards (LORS).

Table 6.14-1 provides a summary of the LORS that are applicable to the proposed project.

Table 6.14-1 Laws, Ordinances, Regulations and Standards

Federal	Applicability
Clean Water Act Oil Pollution Prevention Act (OPPA) 40 CFR Part 112	Requires implementation of a Spill Prevention Control & Countermeasures (SPCC) Plan for fuel storage facilities (including temporary facilities) if the quantity stored is greater than 1,320 gallons and if a spill could reasonably be expected to enter navigable waters of the United States or affect natural resources under the jurisdiction and management of the United States.
Clean Air Act (CAA) Chemical Accident Prevention Provisions 40 CFR Part 68	Requires a Risk Management Plan (RMP) if listed hazardous materials are stored at or above the designated Threshold Quantity (TQ).
Comprehensive Environmental Response, Compensation, and Liability Act (CERLA)/Superfund Amendment and Reauthorization Act - Emergency Planning and Community Right-to-Know Act (EPCRA) Section 302 40 CFR Part 300/355	Requires certain planning activities when Extremely Hazardous Substances (EHS) are present in excess of their Threshold Planning Quantity (TPQ). Facilities must comply within 60 days of becoming subject to these regulations. (Note: Requirement met by complying with State of California Hazardous Materials Release Response Plans and Inventory Act).
CERCLA/SARA EPCRA Section 304 40 CFR Part 300/355	Requires notification when there is a release of a hazardous material in excess of its reportable quantity (RQ).
CERCLA/SARA EPCRA Section 311/312 40 CFR Part 300/355	Requires a Material Safety Data Sheet (MSDS) for every hazardous material to be kept on-site and submitted to the State Emergency Response Commission (SERC), Local Emergency Planning Committee (LEPC), and the local fire department. Requires annual inventory reporting. (Note: Requirement met by utilizing forms also required under the State of California Hazardous Materials Release Response Plans and Inventory Act).
CERCLA/SARA EPCRA Section 313 Toxic Release Inventory (TRI) 40 CFR Part 300/355	Requires annual reporting of releases of hazardous materials.
Resource Conservation and Recovery Act (RCRA) Subtitle C 40 CFR Part 260 - 266	Regulates storage, treatment, and disposal of hazardous waste
Hazardous Materials Transportation Act 49 CFR Part 100 – 185	Regulates the transportation of hazardous materials. Requires employee training and proper transportation methods for hazardous materials as defined in 40 CFR Part 172
Occupational Safety & Health Act (OSHA) 29 CFR Part 1910	Requires training and communication for handlers of hazardous wastes and materials.
State	**Applicability**
Hazardous Materials Release Response Plans and Inventory Act (Health and Safety Code, Chapter 6.95 Section 25500 - 25545)	Requires preparation of a Hazardous Materials Business Plan (HMBP) including a hazardous materials inventory if hazardous materials are

	handled or stored in excess of 55 gallons, 500 pounds, or 200 cubic feet of gas at standard temperature and pressure or equal to or greater than the federal TPQ for federally-listed Extremely Hazardous Substances. Inventory report forms also meet federal EPCRA Section 312 requirements.
California Accidental Release Prevention (CalARP) Program (Health and Safety Code, Chapter 6.95, Section 25531 – 25543.4	Requires registration with local Certified Unified Program Agency (CUPA) or lead agency and preparation of a Release Management Plan (RMP) if acutely hazardous materials are handled or stored in excess of TPQs. This program is the adopted federal CAA Chemical Accident Prevention program (40 CFR part 68) with some amendments specific to the state.
Aboveground Petroleum Storage Act (Health and Safety Code, Chapter 6.67, Sections 25270 – 25270.13)	Requires entities that store petroleum in aboveground storage tanks (AST) in excess of certain quantities to prepare an SPCC plan.
California Hazardous Waste Control Law (Health and Safety Code, Chapter 6.5, Section 25100-25249; regulations found at 22 CCR Section 66261.126 et.seq.)	Controls Storage, treatment, and disposal of hazardous waste.
California Hazardous Waste Control Law, Management of Used Oil (Health and Safety Code, Chapter 6.5, Section 25250 – 25250.28	Regulates the disposition of used oil transported off-site for recycling. Does not apply to oil removed from electrical equipment.
Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et.seq.; waste discharge regulations found in CWC Sections 13260 – 13274)	Controls discharge of wastewater to the surface and groundwaters of California. Applies only if the facility discharges wastewater to surface or groundwater.

Local	**Applicability**
Ordinance No. 615.3 Relating to establishments where hazardous waste is generated, stored, handled, disposed, treated, or recycled.	Requires initial notification reporting to the County of Riverside Health Services Agency Department of Health and a permit for facilities that generate hazardous waste.
Ordinance No. 651.3 Disclosure of hazardous materials and the formulation of Business Emergency Plans	Permit required for handling hazardous materials from the Department of Health. Applicants must develop a Business Emergency Plan. Businesses that the DEH determines present a significant risk under the state or federal regulations shall prepare a Risk Management Plan.
Ordinance No. 617.4 Regulation of underground tank systems containing hazardous substances.	Requires a permit for underground storage tank systems for hazardous substances.

6.14.3 Hazardous Materials Management

Hazardous materials that will be used and stored during construction and operation of the Project are shown on Table 6.14-2. Only aqueous ammonia and sodium hypochlorite will be present in amounts greater than the federal and state regulated reportable quantities.

All hazardous materials will be stored in appropriate storage facilities. Bulk materials will be stored in tanks or containers made of materials compatible with the intended

contents. Quantities generally less than 55-gallons will be stored in delivery containers. All hazardous material storage and use areas will be designed to contain leaks and spills. Containment structures will be provided with sufficient volume to contain the spill of a full tank without overflow.

Aqueous ammonia will be stored on-site in one 12,000-gallon storage tank. The aqueous ammonia storage facility includes secondary containment that will hold 110 percent of the nominal 12,000-gallon tank capacity. Extra berm capacity shall be sufficient to hold precipitation from a 25-year, 24-hour event. The ammonia tanks will each be equipped with a pressure relief valve, a vapor equalization, carbon filter vent, and vacuum breaker.

The ammonia delivery truck unloading station will include a curbed area that can contain the truck volume and prevent storm water runoff from entering the unloading area. The curbed truck drainage pad would slope toward a collection sump. The liquid surface of the ammonia solution in the containment area will be covered by floating balls to inhibit the free evaporation of ammonia from the liquid. The catch basin will be drained periodically to remove any accumulation of spills and rain water.

Safety showers and eyewashes will be provided in all chemical storage areas. Service water hose connections will be provided near the chemical storage areas to facilitate flushing of leaks and spills of non-water reactive materials to the chemical storage area drains. Appropriate safety gear will be provided for plant personnel for use during the handling, use, and cleanup of hazardous materials. Plant personnel will be properly trained in the handling, use, and cleanup of hazardous materials used at the plant, and in procedures to be followed in the event of a leak or spill. Adequate supplies of appropriate cleanup materials will be stored on site.

All electric equipment will be specified to be free of polychlorinated biphenyls (PCBs).

Table 6.14-2 Hazardous Materials – RERC

Material Name	Chemical Composition	Use	Quantity	Federal Reportable Quantity	Storage Location
Aqueous ammonia (19 percent solution)	Ammonium hydroxide	Control nitrous oxide (NO_x) emissions through selective catalytic reduction (SCR)	12,000 gal. (approx. 90,000 lbs.)	1,000 pounds (ammonium hydroxide)	South of the gas compressors
Cleaning chemicals/ detergents	Various	Periodic cleaning	10 gal.	*	Administration / Control Building and Warehouse
Laboratory reagents (liquid)	Various	Water/wastewater laboratory analysis	10 gal.	*	Ware House
Laboratory reagents (solid)	Various	Laboratory analysis	50 lb.	*	Ware House

Material Name	Chemical Composition	Use	Quantity	Federal Reportable Quantity	Storage Location
Mineral Oil lubrication oil	Oil	Lubricate gas compressor and bearings	15 gal.	None	Contained within equipment and extra oil stored in waste oil storage enclosure.
Synthetic lubrication oil	Oil	Lubricate rotating equipment (e.g., combustion turbine bearings)	200 gal.	None	Contained within equipment and extra oil stored in the waste oil storage enclosure.
Mineral lubrication oil	Oil	Lubricate rotating equipment (e.g., generator bearings)	782 gal.	None	Contained within equipment, extra stored in waste oil storage enclosure.
Mineral insulating oil	Oil	Transformers	10,600 gal.	None	Contained within GSU and auxiliary transformers
Scale/corrosion inhibitor (NALCO 73209)	(Various NALCO ingredients)	Cooling tower scale/corrosion inhibitor	75 gal.	None	Near cooling tower
Sodium hypochlorite	(12.5% bleach)	Reverse osmosis plant and cooling tower	50 gal. (approx. 465 lbs.)	100 lbs.	Near cooling tower and demin plant
Bisulfate (NALCO 7408)	(Various NALCO ingredients)	Reverse osmosis system	50 gal.	None	Near demin plant
Nalco Antiscalant PT-191	(Various NALCO ingredients)	Reverse osmosis system	50 gal.	None	Near demin plant
Sulfuric acid	Sulfuric acid (93 percent)	Cooling tower water pH control	50 gal. (approx. 765 lbs.)	1,000 lbs.	Near cooling tower
Miscellaneous flammable liquids	Gasoline, paint, solvents, etc.	Fuel for on site landscaping equipment, paint and solvents for equipment painting	20 gal.	*	Flammable Storage enclosure

* RQ depends on chemical constituents, which will be determined as needed.

All hazardous materials storage vessels will be designed in conformance with the applicable codes. A Hazardous Materials Business Plan, in compliance with the California Hazardous Materials Release Response Plans and Inventory Act, will be prepared and submitted to the County Environmental Health Department/Fire Department for approval.

Small quantity chemicals will be stored in their original delivery containers in order to minimize risk of upset. Personal protective equipment (PPE) will be provided for plant personnel use. Personnel working with chemicals will be trained in proper handling techniques and in emergency response procedures to chemical spills or accidental releases.

Appropriate safety programs will be developed addressing hazardous materials storage locations, emergency response procedures, employee training requirements, hazard recognition, fire safety, first-aid/emergency medical procedures, hazardous materials release containment/control procedures, hazard communications training, PPE training, and release reporting requirements. These programs include a chemical Risk Management Plan (RMP) for aqueous ammonia, sulfuric acid, and sodium hydroxide in accordance with the California Accidental Release Prevention Program (CalARP) emergency regulations, Hazardous Materials Business Plan, workers safety program, fire response program, a plant safety program, and the facility's standard operating procedures.

6.14.4 Waste Generation

6.14.4.1 Solid Non-Hazardous Waste

The construction, operation, and maintenance of the plant will generate non-hazardous solid wastes typical of power generation facilities. Wastes generated during construction generally include soil, scrap wood, excess concrete, empty containers, scrap metal, and insulation. Typical wastes generated during operation and maintenance includes scrap metal and plastic, insulation material, paper, glass, empty containers, and other miscellaneous solid wastes. These materials will be collected for recycling or transfer to landfills in accordance with applicable regulatory requirements. A list of non-hazardous wastes, waste quantities, and disposal methods is provided in Table 6.14-3.

Table 6.14-3 Non-hazardous Waste Management Methods

Source of Waste	Waste Composition	Quantity	Disposal Method
Air pollution control devices	Spent SCR and CO Catalyst	Every few years	Recycled to equipment manufacturer
Construction waste	Wood, metal, concrete, etc.	0.5 cubic yards per month	Transported to offsite landfill
Auxiliary Cooling Water System	Blowdown	19 gpm	ZLD System
Electrical Transformers	Waste oil	No waste routinely generated	Pumped from transformer to 55-gallon drum, stored in Waste Oil Storage enclosure until sent offsite for recycling (Advanced Environmental Management, Inc. in Fontana or Filter Recycling Services, Inc. in Rialto*)
Closed Cooling (chilled water) Systems	Propylene glycol	55 gal/year	Pumped from closed loop cooling system to 55-gal drums and sent

Source of Waste	Waste Composition	Quantity	Disposal Method
water) Systems			offsite for recycling (Advanced Environmental Management, Inc. in Fontana*)
Municipal Solid Waste	Paper, food, plastic, etc.	20 cubic yards per month	Transported to offsite landfill
Water Treatment Plant	RO reject water	51 gpm	ZLD System
Wastewater System	Process drains, miscellaneous floor drains	50 gpm	ZLD System
ZLD Option 1: High Efficiency RO with Crystallizer (liquid hauled off-site)			
Crystallizer Purge Stream	Highly concentrated liquid containing ions and dissolved solids from the non-potable water source	96 gal/day	Liquid transported to non-hazardous waste disposal site
ZLD Option 2: High Efficiency RO with Crystallizer and Filter Press			
Crystallizer Purge Stream	Highly concentrated liquid containing ions and dissolved solids from the non-potable water source	96 gal/day	Liquid transported to non-hazardous waste disposal site
Filter Press Effluent	Salt cake containing minerals from the non-potable water source	48 gal/day	Transported to an off-site landfill

** Potential waste management facility; actual one will be selected pending project approval.*

6.14.4.2 Hazardous Waste

Hazardous wastes will be generated as a result of project construction, operation, and maintenance. The majority of hazardous wastes generated during construction will be liquid wastes such as waste oil and other lubricants from machinery operations, solvents used for cleaning and materials preparation, waste paints and other material coatings.

Table 6.14-4 provides a list of the expected hazardous wastes that may be generated at the SERC and the disposal methods that will be utilized.

Table 6.14-4 Hazardous Waste Management Methods

Source of Waste	Waste Composition	Quantity	Disposal Method
Chemical Feed and Sampling Systems	No waste routinely generated; occasional spills only	No waste routinely generated	Spills pumped from secondary containment into container and reclaimed or disposed of offsite at appropriately permitted facility (RCRA Part B)
SCR	Spent SCR and Oxidation Catalyst	N/A	Recycled by supplier

Source of Waste	Waste Composition	Quantity	Disposal Method
Lubricating Oils	Waste oil	No waste routinely generated	Pumped from equipment to 55-gallon drum, stored in Waste Oil Storage enclosure until sent offsite for recycling (Advanced Environmental Management, Inc. in Fontana or Filter Recycling Services, Inc. in Rialto*)
Fuel Gas System	Blowdown oils	30 gal/month	Blowdown from filters flows to drain tanks and the contents from the drain tanks will be pumped into 55-gal drums and sent for recycling (Advanced Environmental Management, Inc. in Fontana or Filter Recycling Services, Inc. in Rialto*)

** Potential waste management facility; actual one will be selected pending project approval.*

The methods used to properly collect and dispose or recycle hazardous wastes generated by the plant depend on the nature of the waste. Hazardous wastes generated by the plant include spent SCR and oxidation catalyst, used oil filters, used oil, and chemical cleaning wastes. Spent SCR and oxidation catalyst will be recycled by the catalyst supplier. Used oil filters will be recycled or disposed of at an off-site disposal facility. Used oil will be recovered and recycled by a waste oil recycling contractor.

Chemical cleaning wastes consist of acid and alkaline cleaning solutions used for pre-operational chemical cleaning of piping. These wastes, which may have elevated concentrations of metals, will be tested. If hazardous, these and all other hazardous solid and liquid wastes will be disposed of at RCRA Part B permitted facility in accordance with applicable LORS.

Workers will be trained to handle waste generated at the site in accordance with Worker Safety and Health.

6.14.4.3 General Plant Drainage

General plant drainage consists of wastewater collected by sample drains, equipment drains, equipment leakage, and area wash-downs. Wastewater collected in the general plant drainage system will be routed to an equalization chamber where it will be mixed with other non-oily wastewater for recovery through the ZLD system. General plant drainage that potentially contains oil or grease will be routed through an oil water separator. Chemicals for treatment of water (demineralized water), and cooling tower water will be stored in a secondary containment with no direct drainage to the sewer system.

6.14.5 Impacts

6.14.5.1 CEQA Environmental Checklist

Table 6.14-5 shows the results of the CEQA Environmental Checklist.

Table 6.14-5 CEQA Environmental Checklist – Hazardous Materials

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		X		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?			X	
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X
i) Exceed an applicable LRDP or Program EIR standard of significance?				X

6.14.5.2 Discussion of Impacts

The proposed Project will have a less-than-significant impact on the public or the environment through the routine transport and use of hazardous materials because these materials are consistently transported in similar industrial areas to similar facilities without incident. Transport of hazardous materials will follow all applicable federal Department of Transportation laws and other applicable LORS to minimize the potential for a transportation-related release.

On-site Chemical Management Impacts

The two principal regulated hazardous substances that will be present in quantities exceeding state and federal threshold planning quantities are aqueous ammonia and sodium hypochlorite. Aqueous ammonia (ammonium hydroxide) is a severe corrosive that can cause irritation to the respiratory tract, burns to the skin, eye damage, or with exposure to higher concentrations pulmonary edema and death. The 19 percent ammonia solution will be used for the SCR units for control of NOx emissions. The aqueous ammonia storage facility will be located at the north end of the facility and will be ventilated to prevent accumulation of emissions from exceeding OSHA permissible exposure limits. This area will also be designed to hold the nominal capacity of the largest ammonia tank plus 10 percent freeboard capacity to accommodate precipitation from a 25-year 24-hour event. The associated piping system will be made of materials and will contain safety features that will reduce the potential for ammonia releases at the site. Because of safety shut-off systems associated with delivery of aqueous ammonia from the tank to the vaporizer and ammonia to the SCR, potential ammonia release quantities from these system components in the event of an upset condition are small compared to losses from the storage tanks or from truck unloading. The aqueous ammonia unloading station will be an engineered tank-truck unloading area, paved with reinforced, sealed concrete. The unloading area will be equipped with one-foot-high sidewalls and one-foot-high drive-over entrance and exit structures. The finished concrete floor will slope to a center drain. An underground containment vault, adequate to hold the contents of a worst-case spill event with a wash water allowance and a contingency factor

will be located adjacent to or below the concrete floor and drain. With these measures in place, there is no significant increase in risk to the public or environment.

The Project will use approximately 198 pounds per hour of 19 percent aqueous ammonia solution per day. It is anticipated that ammonia will be delivered five times per year. This will not pose a substantial increase in risk of releases from use or transport of this substance. Table 6.14-6 presents the anticipated frequency of hazardous materials deliveries to RERC.

Table 6.14-6 Anticipated Frequency of Hazardous Materials Deliveries to RERC

Hazardous Material	Frequency of Deliveries	Quantity per Load	Transport Method
19% Aqueous Ammonia	5 times/year	8,000 gal.	Tank truck
Sodium Hypochlorite	Quarterly	300 gal.	Tank truck
Anti-scalant Inhibitor (NALCO 73209)	Quarterly	75 gal.	Delivery vehicle
Biocide	Quarterly	50 gal.	Delivery vehicle
Anti-scalant (NALCO PT-191)	Quarterly	75 gal.	Delivery vehicle
Bisulfite (NALCO 7408)	Quarterly	75 gal.	Delivery vehicle
Sulfuric Acid	Quarterly	50 gallons	Tank truck
Laboratory Chemicals	Quarterly	2 gallons	US Mail/Courier

Sulfuric acid will be used at the facility for maintaining pH in the tower. The amount stored on-site (50 gallons) will not exceed state and federal threshold planning quantities. Sulfuric acid is a clear, oily liquid that is very corrosive. The primary exposure routes are either by direct contact in the event of spills or through inhalation of airborne vapors. The Occupational Safety and Health Administration (OSHA) and the National Institute of Occupational Safety and Health (NIOSH) limit the amount of sulfuric acid in workroom air to 1 milligram per cubic meter of air (1 mg/m^3) [Agency for Toxic Substances and Disease Registry, 1998]. At RERC, sulfuric acid will be stored near the cooling towers and extra inventory will be stored in the chemical storage enclosure area in containers compatible with strong acids.

The Project will use less than one gallon of 93 percent sulfuric acid solution per day. It is anticipated that sulfuric acid will be delivered four times per year. This will not pose a substantial increase in risk of releases from use or transport of this substance.

Sodium hypochlorite is synonymous with liquid bleach. It is prepared by reacting a dilute caustic soda solution with liquid or gaseous chlorine accompanied by cooling. At the facility, this compound will be used for sanitization in the cooling tower and reverse osmosis system. Sodium hypochlorite is a powerful oxidizing agent that can produce burns when in contact with the skin and respiratory irritation or burns when inhaled.

The project will use approximately 5 gallons of sodium hypochlorite per day. It will be shipped to the site approximately four times a year and stored near the cooling tower and demin plant. With appropriate management, use of this chemical in low quantities will not pose a substantial risk of releases.

The chemical storage enclosure, ammonia storage tanks, and other equipment that may contain hazardous substances will be designed to provide secondary containment and/or other means to control the spread of any spills or releases that may occur and to isolate such substances from incompatible materials or processes.

On-site Waste Management Impacts

Methods that will be used to handle waste generated by the proposed Project are summarized in Tables 6.14-4 and 6.14-5, above. In addition to those wastes generated during operation of the proposed Project, construction wastes that may be generated temporarily could also include small quantities of adhesives, solvents, and paints, and other solid construction debris. The construction contractors will save unused chemicals for reuse. Any chemical waste products generated by the contractors will be transported offsite by a licensed hazardous waste transporter to an approved disposal facility. Therefore, the impacts from waste management at the proposed Project site are expected to be minimal.

Sensitive Receptors

Sensitive receptors are usually thought of as vulnerable populations or ecosystems that could be impacted by the release of toxic materials or hazardous wastes. Such populations typically include daycare facilities, residential facilities such as schools, and parks, and other locations typically occupied by children. Hospitals and nursing homes are also considered sensitive receptors. Sensitive ecosystems may include wetlands, rivers, ponds, and natural landscapes that serve as feeding and brooding sites for animal populations. The Santa Ana River Corridor, north of the proposed facility, is frequented by humans and wildlife and is considered a sensitive area. In addition, residentially zoned land is located approximately 0.5 miles to the south. However, the area immediately surrounding the proposed facility (within a 0.2 mile worst-case release radial impact area as described in Section 6.8) is dedicated for commercial and industrial use and does not encompass any sensitive receptors. Adjoining properties include storage yards, commercial businesses, and the City of Riverside Water Treatment Facility. Access is by commercially traveled roads utilized by other industries to haul raw materials or component ingredients similar to those that would be used by the proposed project. Given the infrequent deliveries of hazardous materials or removal of wastes, the small quantities associated with these deliveries, and the routes that would be used by commercial haulers (which is away from the river's open space corridor), the risk to this area is considered minimal. Detailed discussion of the health and safety considerations for this project is found in Section 6.8.

Cumulative Impacts

As proposed, the Project will not result in significant cumulative impacts that could adversely affect public health and safety or the environment. The primary potential cumulative effect would require consideration of the possibility any one chemical release

from the site would create an additive risk to humans or the environment when combined with other releases or emissions emanating from surrounding chemical-use facilities. An even less likely scenario would be that two or more hazardous substances would be released at the same time and therefore have the potential to combine, thereby posing a greater threat to offsite receptors. The hazardous material with the greatest potential for offsite migration would be the 19 percent aqueous ammonia solution. A health risk analysis for exposure to aqueous ammonia is included in Section 6.8. Spills or leaks of aqueous ammonia would gradually evaporate as a gas to the atmosphere. At high concentrations (greater than 2,500 parts per million [ppm]), ammonia gas causes severe health impacts, including death. However, the odor threshold is only about 5 ppm and irritation of the upper airways occurs at concentrations between 30 and 50 ppm. Therefore, any releases will be readily detectable at concentrations well below severe hazard levels. Safety precautions designed to quickly mitigate potential releases and safeguard worker health will include equipping workers with appropriate personal protective equipment, conducting appropriate hazardous materials and emergency response training, appropriate storage and signage practices, and worker right-to-know/chemical awareness training.

6.14.6 Involved Agencies and Agency Contacts

Table 6.14-7 lists the local agencies involved in hazardous materials management at the RERC facility and a contact person at each agency. The Riverside County Community Health Agency, Department of Environmental Health is the CUPA and administers the Hazardous Waste Generator Program and the Hazardous Materials Handler Program. The County of Riverside and the City of Riverside oversee compliance with the California Accidental Release Prevention Program (CalARP) and the Hazardous Materials Release Response Plan and Inventory Act (i.e., the Hazardous Materials Business Plan program). The HMBP needs to be submitted to the City of Riverside Fire Department's HAZMAT Section.

Table 6.14-7 Hazardous Material Agency Contacts for the Proposed Project

Agency	Name/Title	Address	Phone Number
Riverside County Community Health Agency, Dept. of Environmental Health	Paul Tavares Deputy Director	4065 County Circle Dr. Riverside, CA 92503	(909) 358-5055
City of Riverside Fire Department, HAZMAT Section	Joan Ledbetter Fire Marshal	3775 Fairmount Blvd. Riverside, CA 92501	(909) 826-5321

6.14.7 References

Agency for Toxic Substances and Disease Registry (ATSDR), 2004. Medical management guidelines for ammonia. http://www.atsdr.cdc.gov.

Agency for Toxic Substances and Disease Registry (ATSDR), 2004. ToxFAQs for sulfur trioxide and sulfuric acid. http://www.atsdr.cdc.gov/tfacts117.html.

California Department of Toxic Substance Control, 2004. Laws, regulations and policies website: http://www.dtsc.ca.gov/LawsRegulationsPolicies/hs_code.html.